

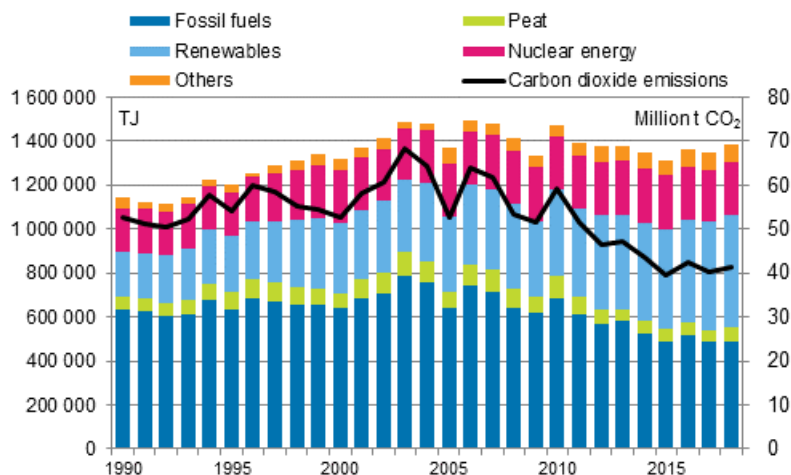
Energy supply and consumption

2018, 4th quarter

Total consumption of energy increased by 2 per cent in 2018

According to Statistics Finland's preliminary data, total consumption of energy in 2018 amounted to 1.38 terajoule (TJ), which corresponded to a growth of two cent compared with the previous year. The growth was due to the increased use of both fossil fuels and peat and renewable energy sources. Carbon dioxide emissions from the energy use of fuels went up by three per cent, which was particularly influenced by the growing use of peat. Total consumption of electricity went up by two per cent to 87 terawatt hours (TWh).

Total energy consumption and carbon dioxide emissions 1990–2018*



In 2018, the consumption of renewable energy sources increased by three per cent and their share of total energy consumption grew by one percentage point to 37 per cent. The consumption of black liquor from forestry went up by nine per cent. As a result, the consumption of wood fuels grew in total by four per cent and with the share of 27 per cent they were the most used energy source in Finland. Production of wind power grew by 22 per cent and that of hydro power in turn fell by 10 per cent.

The use of fossil fuels and peat increased by two per cent from the previous year and their share of total energy consumption was 40 per cent. For oil and coal, consumption fell by one to two per cent. By contrast, the consumption of natural gas increased by 12 per cent. In the cold period in the early part of the year,

the challenges presented by the acquisition of wood fuels significantly increased the consumption of peat. In the whole year, the consumption of peat was 24 per cent higher than in the year before. After wood fuels, oil was the second most significant energy source with a 22 per cent share of total energy consumption.

Domestic production of electricity in 2018 was 67 TWh, which was four per cent more than one year ago. Around one-third of electricity was produced with nuclear energy. Nearly as much electricity was produced with combined heat and power production. Production of hydro power fell on account of the poor water situation for a third year in a row, which in part had an effect on the 49 per cent growth in condensate power. Production of wind power increased by 22 per cent and its share of total electricity production rose to nine per cent. Solar power is growing briskly and the electricity produced with it nearly quadrupled from the previous year. Despite this, production of solar power only corresponded to two per mil of total production. In all, 20 TWh of total electricity consumption, or 23 per cent, was covered with net imports of electricity. The amount of net imports rose slightly from the previous year and Russia's share of imports grew.

Final consumption of energy went up as a whole by two per cent. The growth was biggest in manufacturing, four per cent. The share of manufacturing in total final consumption stood at 48 per cent. The consumption of heating energy for buildings remained on level with the previous year and their share of total energy consumption was 25 per cent. For transport, final energy consumption fell by one per cent and its share was 16 per cent.

Net imports of electricity to Finland amounted to 20.4 TWh, which corresponded to 24 per cent of total electricity consumption. Compared with 2016, net imports of electricity grew by eight per cent, which was mainly caused by a 44 per cent fall in exports of electricity. Finland's largest electricity import countries in 2017 were Sweden and Russia. Most electricity was imported from Sweden, 15.3 TWh. Electricity imports from Russia were 5.8 TWh. Almost all exports of electricity from Finland were directed to Estonia, amounting to 1.7 TWh.

Last year, diverse energy products were imported into Finland to the value of EUR 10.7 billion, which was 21 per cent more than one year earlier. Most energy products were imported from Russia, whose share of the value of imports was around 61 per cent. Respectively, energy products were exported from Finland to the value of EUR 5.4 billion, which was around 14 per cent more than in the year before.

Total energy consumption by source (TJ) and CO2 emissions (Mt)

Energy source, TJ ⁴⁾	2018*	Annual change-%*	Percentage share of total energy consumption*
Oil	307,563	-2	22
Coal ¹⁾	112,121	-1	8
Natural gas	73,576	12	5
Nuclear energy ²⁾	238,784	2	17
Net imports of electricity ³⁾	71,769	-2	5
Hydro power ³⁾	47,322	-10	3
Wind power ³⁾	21,086	22	2
Peat	66,696	24	5
Wood fuels	376,338	4	27
Others	67,751	6	5
TOTAL ENERGY CONSUMPTION	1,383,005	2	100
Bunkers	46,019	7	.
CO2 emissions from fuel combustion	41	3	.

1) Coal: includes hard coal, coke, blast furnace gas and coke oven gas.

2) Conversion of electricity generation into fuel units: Nuclear power: 10.91 TJ/GWh (33% total efficiency)

3) Conversion of electricity generation into fuel units: Hydro power, wind power and net imports of electricity: 3.6 TJ/GWh (100%)

4) *Preliminary

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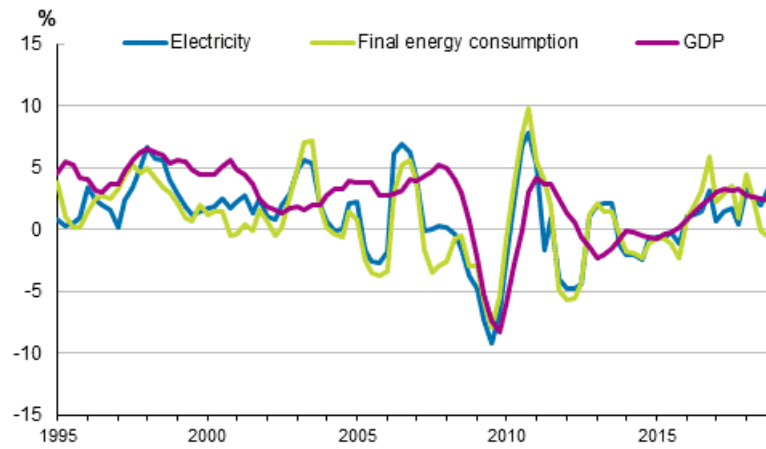
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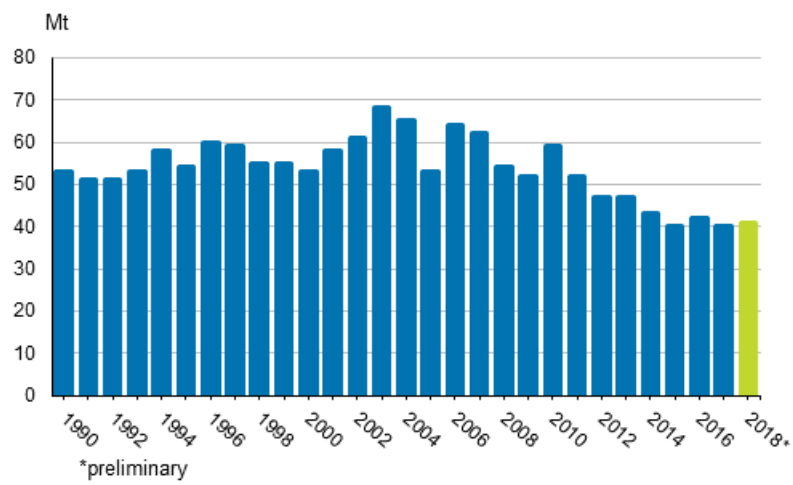
Appendix figures

Appendix figure 1. Changes in GDP, Final energy consumption and electricity consumption 1995–2018*



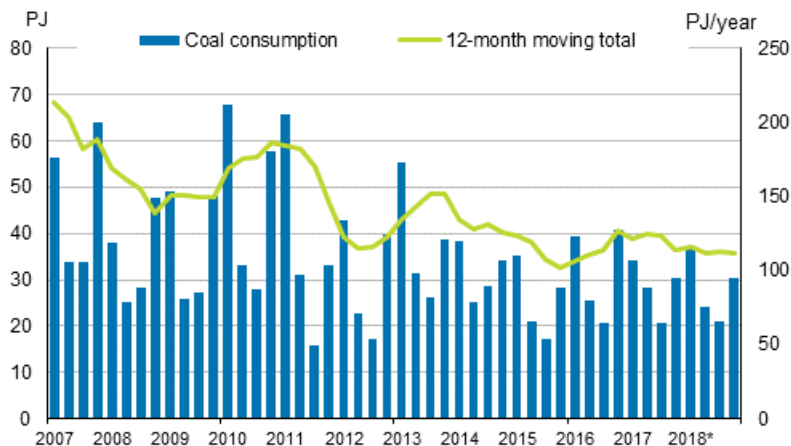
*preliminary

Appendix figure 2. Carbon dioxide emissions from fuel combustion 1990–2018*



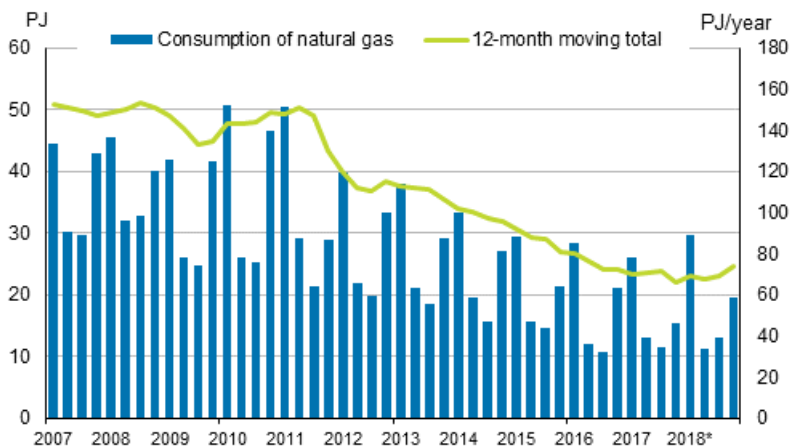
*preliminary

Appendix figure 3. Coal consumption 2007–2018*



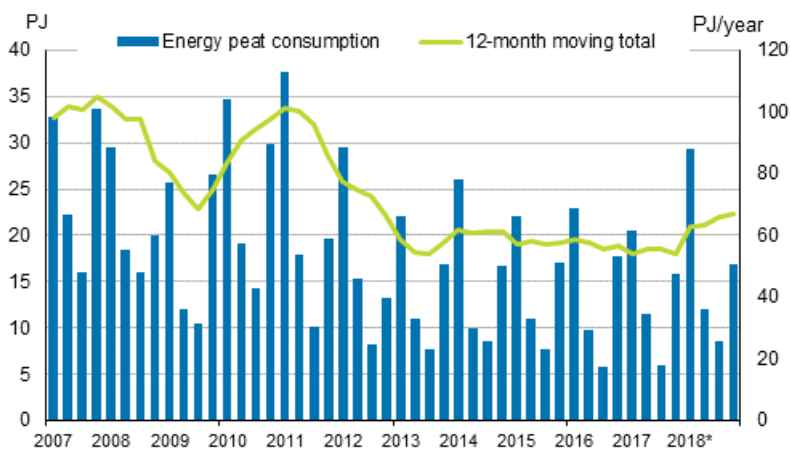
*preliminary

Appendix figure 4. Consumption of natural gas 2007–2018*



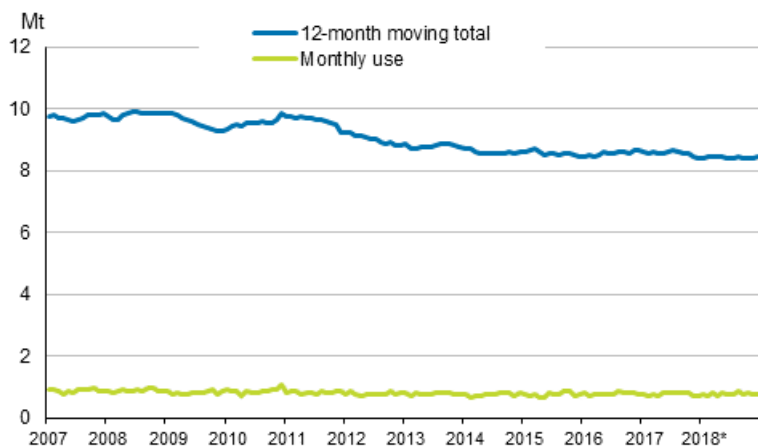
Source: Gasum Oy, *preliminary

Appendix figure 5. Energy peat consumption 2007–2018*



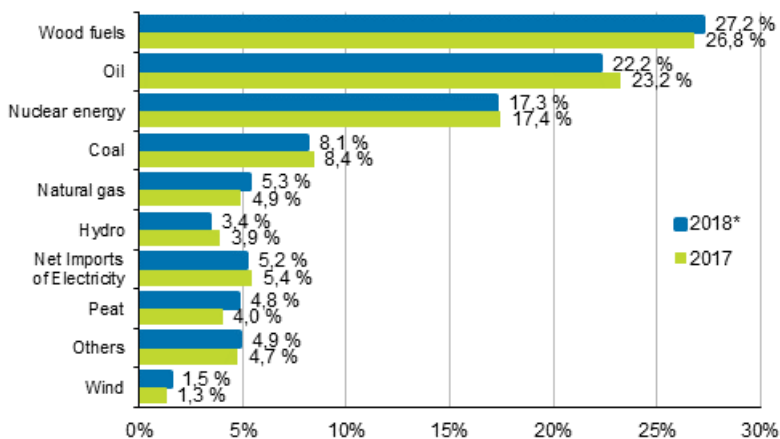
Source: The Bioenergy Association of Finland, *preliminary

Appendix figure 6. Domestic oil deliveries 2007–2018*



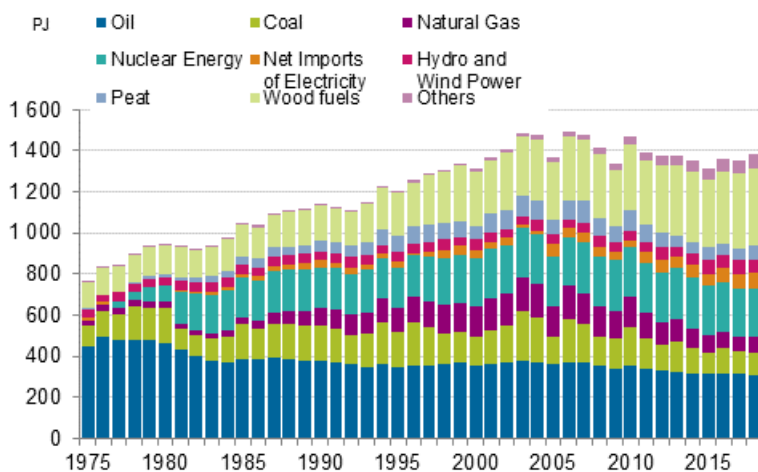
Source: Finnish Petroleum and Biofuels Association

Appendix figure 7. Share of total energy consumption 2017–2018*



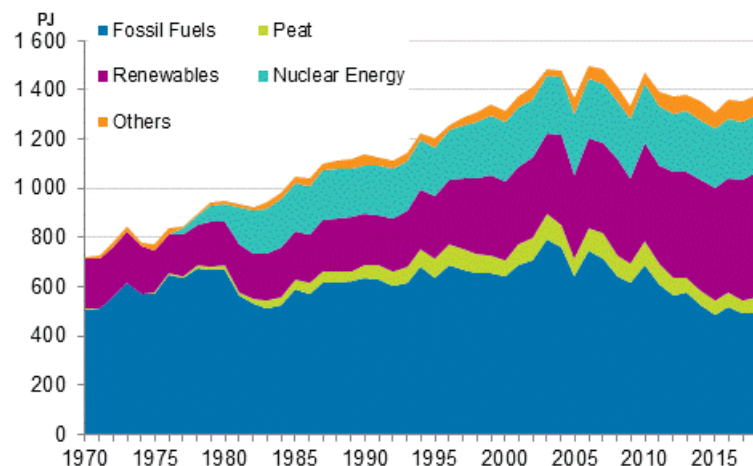
*preliminary

Appendix figure 8. Total energy consumption 1975–2018*



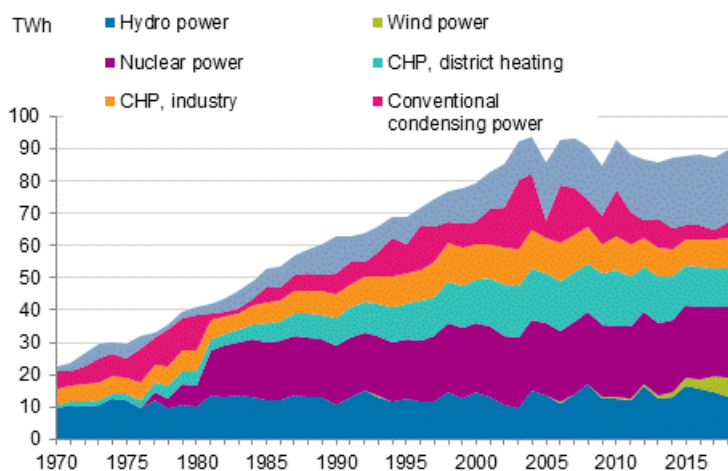
*preliminary

Appendix figure 9. Fossil fuels and renewables 1970–2018*



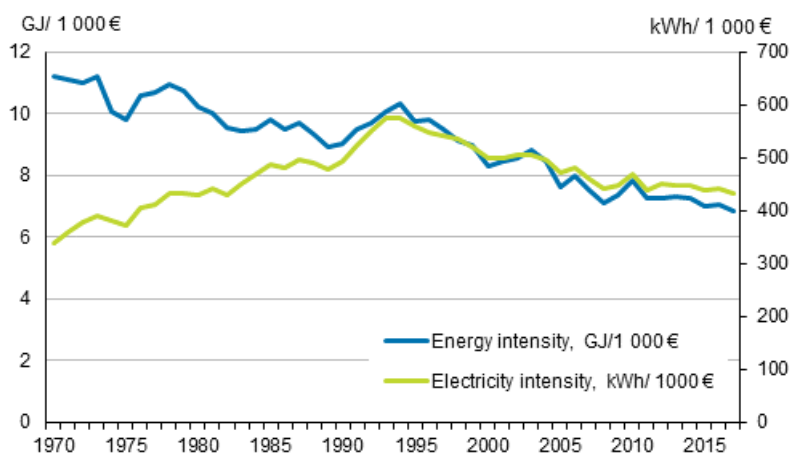
*preliminary

Appendix figure 10. Electricity supply 1970–2018*



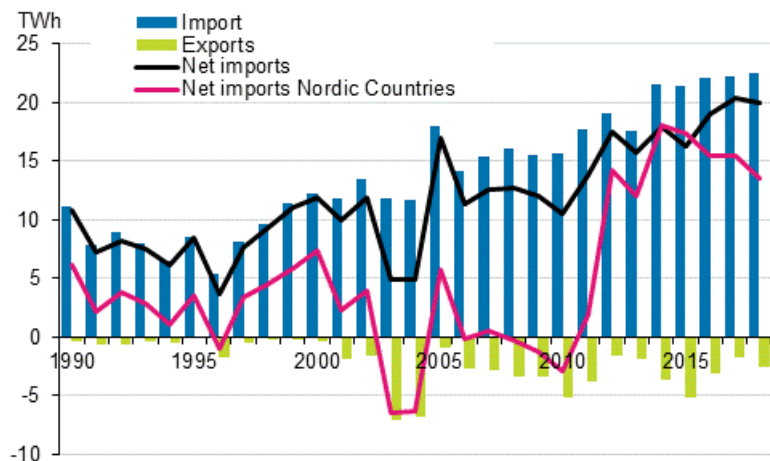
*preliminary

Appendix figure 11. Energy and electricity intensity 1970–2018*



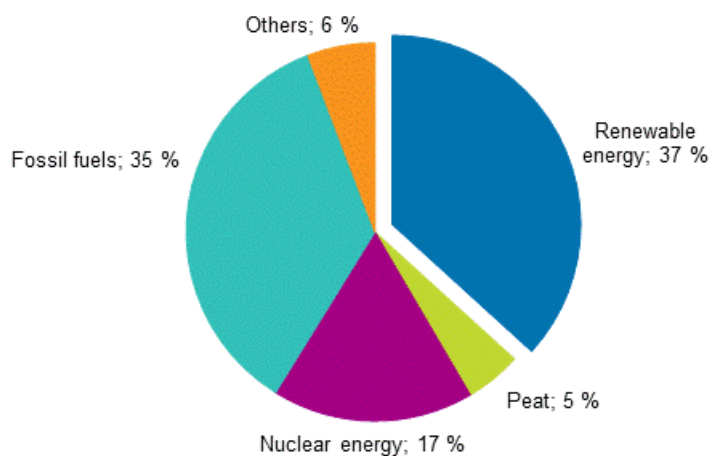
*year 2016 preliminary

Appendix figure 12. Imports and exports of electricity 1990–2018*



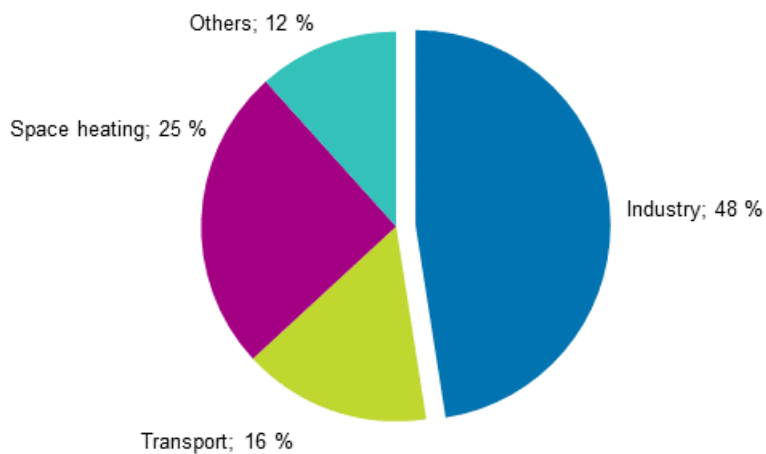
Source: Finnish Energy Industries, *preliminary

Appendix figure 13. Share of renewables of total primary energy 2018*



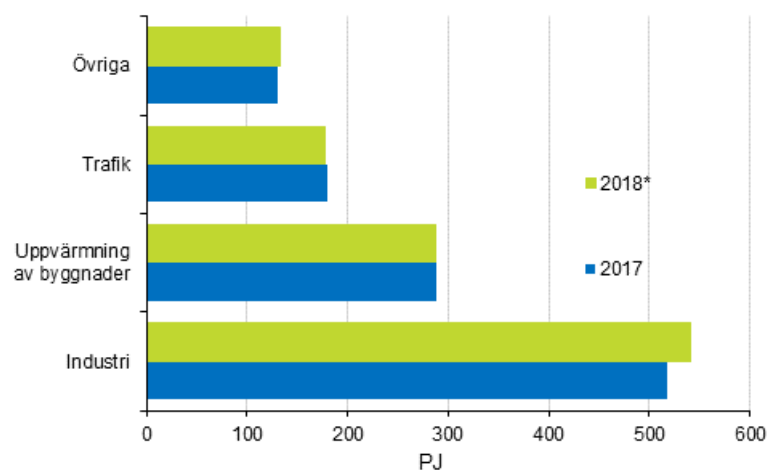
*preliminary

Appendix figure 14. Final energy consumption by sector 2018*



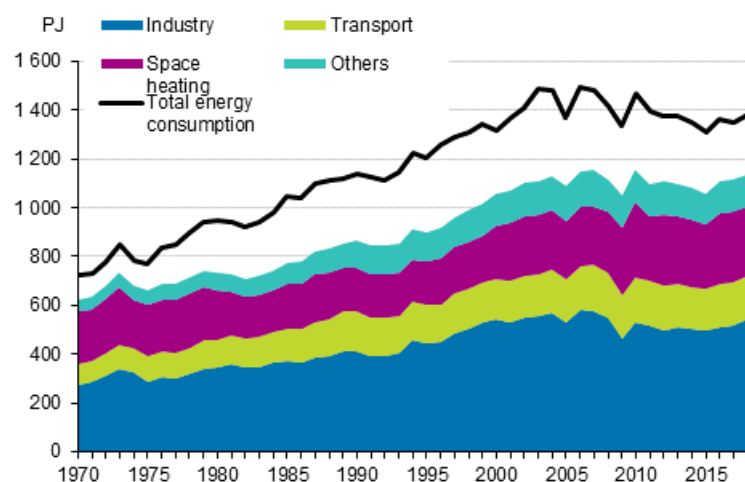
*preliminary

Appendix figure 15. Final energy consumption by sector 2017 and 2018*



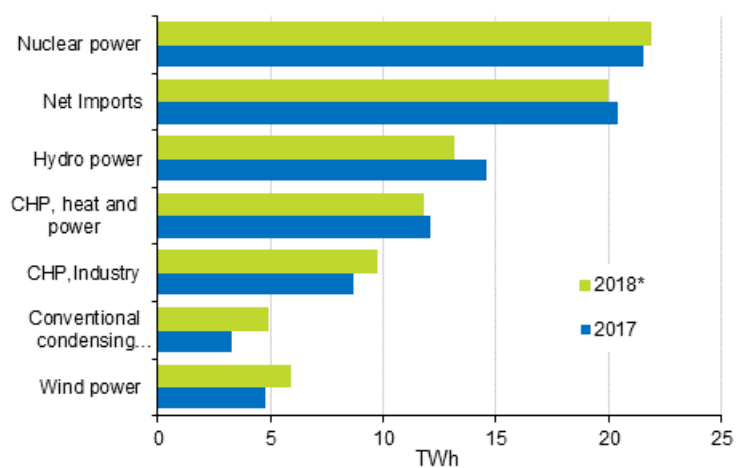
*preliminary

Appendix figure 16. Total energy consumption and final energy consumption 1970–2018*



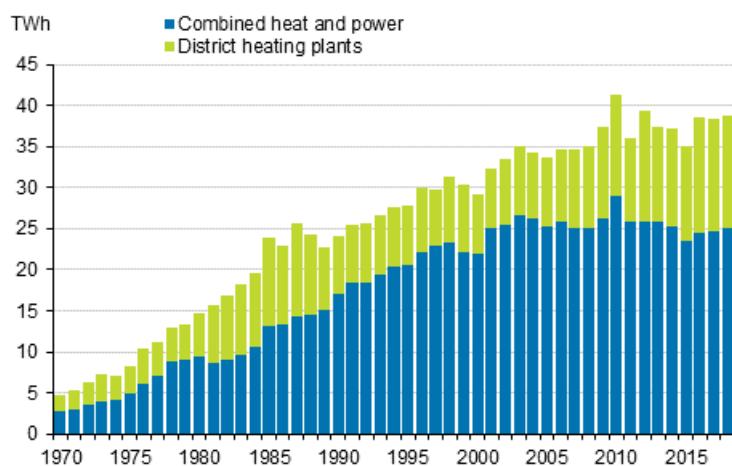
*preliminary

Appendix figure 17. Electricity supply 2017–2018*



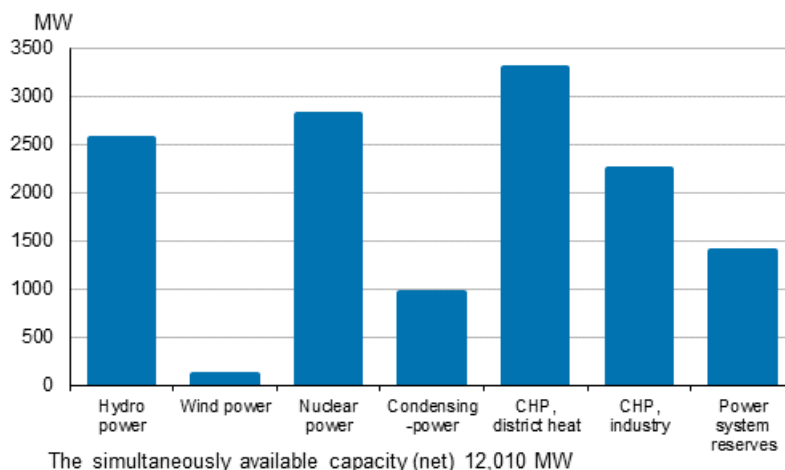
Source: Finnish Energy Industries, *preliminary

Appendix figure 18. Production of district heat 1970–2018*



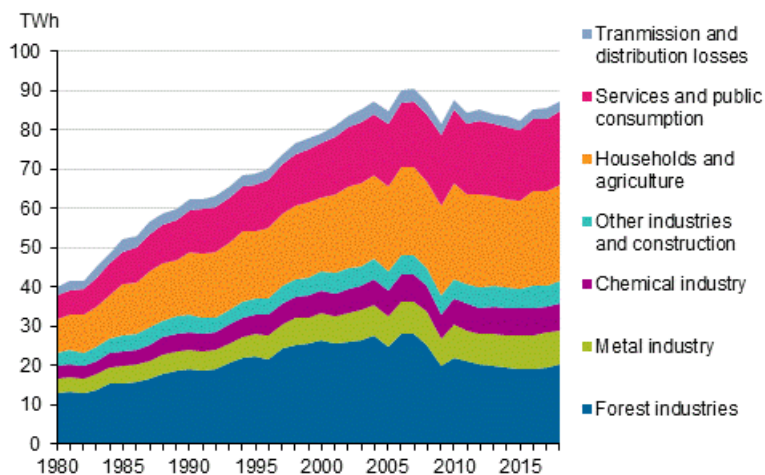
Source: Finnish Energy Industries *preliminary

Appendix figure 19. Electricity generation capacity in peak load period in the beginning of the year 2019



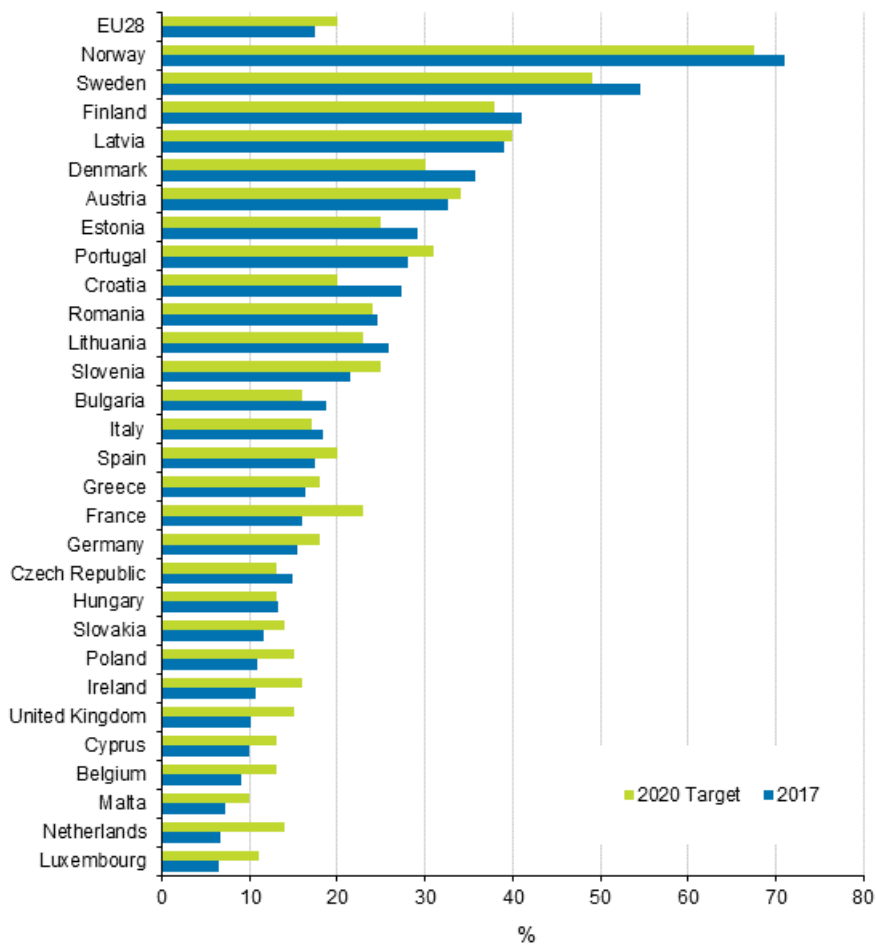
Source: Fingrid Oyj and the Energy Authority

Appendix figure 20. Electricity consumption by sector 1980–2018*



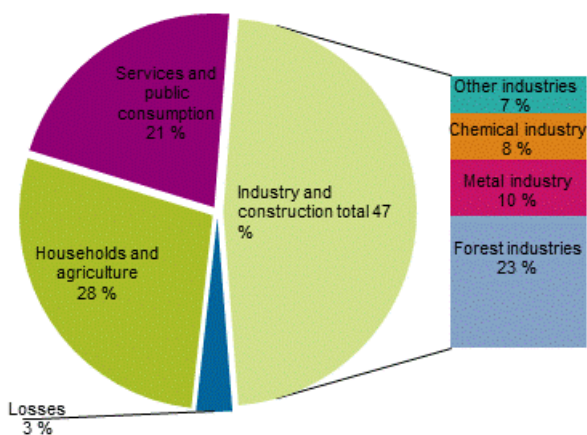
Source: Finnish Energy Industries, *preliminary

Appendix figure 21. Renewable energy as a proportion of final energy consumption in 2017, and the target for 2020



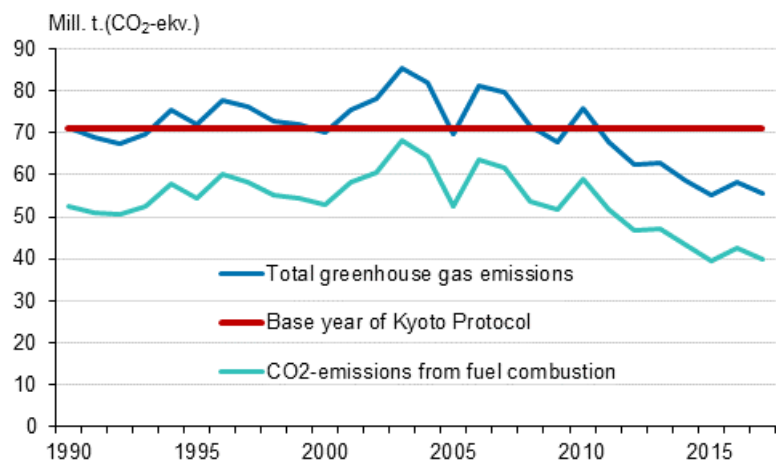
Source: Eurostat

Appendix figure 22. Electricity consumption by sector 2018*



Source: Statistics Finland, *preliminary

Appendix figure 23. Finland's greenhouse gas emissions 1990–2018*



Revisions in these statistics

The data of the statistics have become revised according to the table below. For more information about data revisions, see Section 3 of the quality description (only in Finnish).

Revisions to data on annual changes in total energy consumption¹⁾

Total energy consumption and quarter		Annual change (%)		Revision (%-point)
		1st release	Latest release 28th March 2019 (%)	
	I-IV 2018	.	2	.
	I/2018	9	11	2
	II/2018	-3	-1	2
	III/2018	-3	-3	2
	IV/2018	.	-1	.

1) The revisions describe the difference between the annual change percentages of the latest and first releases in percentages. The first release refers to the time when preliminary data for the statistical reference quarter in question were released for the first time.

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Source: Statistics Finland, Energy supply and consumption